

Notice of Allowability

Application No.

09/747,070

Examiner

Melanie Jagannathan

Applicant(s)

MCCANN ET AL.

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/11/2005.
2. ☒ The allowed claim(s) is/are 1-8, 16-17, 9-14, 18-22, 23, 25, 24, 26 renumbered 1-25 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 10/11/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 11/21/2005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

- A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/11/2005 has been entered.
- Claims 1-14, 16-26 are pending.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Gregory Hunt on November 18, 2005.

The application has been amended as follows:

1. A method for routing message to a short message service center (SMSC) in a network including a plurality of SMSCs, the method comprising:

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- (a) receiving a message having a signaling connection control part and a mobile application part, the mobile application part having a mobile identification number (MIN) of an originating handset;
- (b) determining an entity type for the message based on the signaling connection control part;
- (c) in response to determining that the entity type indicates that the message is destined for an SMSC, performing a lookup in an address translation database using the MIN of the originating handset from the mobile application part of the message to locate an address for one of the SMSCs in the network, wherein performing a lookup in an address translation database using the MIN of the originating handset includes performing, using the MIN of the originating handset, a lookup in an exception-based database containing first packet routing rule records and, in response to failing to locate an address in the exception-based database, the method further comprises performing a lookup in a range-based database containing second packet routing rule records, wherein the first packet routing rule records represent packet routing rules that are exceptions to packet routing rules represented by the second packet routing rule records; and
- (d) in response to locating the address, routing the message based on the address.

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2. The method of claim 1 wherein ~~performing a lookup in an address translation database includes performing a lookup in a~~ at least one of the first packet routing rule records in the exception-based database is indexed by a single mobile identification numbers number.
3. The method of claim 1 wherein ~~performing a lookup in an address translation database includes performing a lookup in a~~ at least one of the second packet routing rule records in the range-based database is indexed by a ranges range or block of mobile identification numbers.
4. The method of claim 1 wherein ~~performing a lookup in an address translation database includes performing a lookup in a first the database indexed by single of mobile identification numbers using the MIN of the originating handset extracted from the MAP portion of the message and in response to failing to locate the address in the first database, performing a lookup in a second the range-based database includes performing the lookup using an entity address extracted from the signaling connection control part of the message.~~
9. A flexible routing node comprising:
 - (a) a communication module for receiving signaling messages, determining whether the messages require signaling connection control part (SCCP) processing, and, in response to determining that the messages require SCCP processing, internally routing the messages; and

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- (b) a processing module for receiving the signaling messages that require SCCP processing, extracting mobile identification numbers of originating handsets from mobile application part portions of the messages, and performing address translations for the messages based on the mobile identification numbers of the originating handsets, wherein the processing module includes a range-based database having first packet routing rule records and an exception-based database having second packet routing rule records representing exceptions to packet routing rules represented by the first packet routing rule records and wherein, in performing each of the address translations, the processing module is adapted to perform a lookup in at least one of the range-based and exception-based databases.
16. The method of claim ~~[[15]]~~ 1 wherein at least one entry of the first packet routing rule records in the ~~address-translation~~ exception-based database is indexed by a mobile identification number that is outside of a mobile identification number ranges range by which the ~~entries~~ at least one of the second packet routing rule records in the range-based database ~~[[are]]~~ is indexed.
19. The flexible routing node of claim 9 ~~comprising a first~~ wherein at least at least some of the second packet routing rule records database are indexed by individual mobile identification numbers ~~and a second,~~ and wherein at least some of the first packet routing rule records database are indexed by ranges of mobile identification numbers, and wherein the processing module is adapted to perform

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a lookup in the first exception-based database using the mobile identification number of the originating handset from a MAP portion of one of the messages that require SCCP processing, and in response to failing to locate a matching entry in the first exception-based database, the processing module is adapted to perform a lookup in the second range-based database using an SMSC entity address extracted from an SCCP portion of the one message.

20. The flexible routing node of claim 19 wherein at least one entry of the second packet routing rule records in the first exception-based database is indexed by a mobile identification number that is outside of mobile identification number ranges by which entries the first packet routing rule records in the second range-based database are indexed.

23. A network element for routing a data packet through a communications network, the network element comprising:

- (a) a communication module capable of transmitting a data packet to and receiving the data packet from a communications network;
- (b) a range-based database containing first packet routing rule records, wherein each first packet routing rule record is indexed by a range or block of identification numbers; and
- (c) an exception-based database containing second packet routing rule records wherein each second packet routing rule record is indexed by a single identification number, wherein at least one of the second packet routing rule records is indexed by a single identification number that is ~~an exception to~~ outside of the ranges

or blocks of identification numbers by which the first packet routing rule records are indexed, wherein the network element is adapted to perform a lookup in the exception-based database using a mobile identification number (MIN) extracted from a mobile application part (MAP) of a signaling message, and, in response to failing to locate a matching record, the network element is adapted to perform a lookup in the range-based database using an entity address extracted from a signaling connection control part (SCCP) of the signaling message.

26. The ~~method~~ network element of claim 24 wherein the MIN comprises a MIN of an originating handset.

Allowable Subject Matter

2. Claims 1-8, 16-17, 9-14, 18-22, 23,25,24,26 renumbered 1-25 respectively are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 1, prior art of record does not disclose, in single or in combination, using MIN of originating handset to perform a lookup in an exception-based database containing first packet routing rule records and in response to failing to locate address in exception-based database, performing a lookup in a range-based database containing second packet routing rule records, the first packet routing rule records representing routing rules that are exceptions

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to second packet routing rule records in combination with other limitations of claims.

Regarding claim 9, prior art of record does not disclose, in single or in combination, a range-based database having first packet routing rule records, and an exception-based database having second packet routing rule records representing exceptions to packet routing rules represented by first packet routing rule records, performing each address translation using lookup in at least one of the range-based and exception-based databases in combination with other limitations of the claims.

Regarding claim 23, terminal disclaimer filed 10/18/2005 overcomes double patenting rejection.

Regarding claim 24, please refer to comments on allowable subject matter made in previous office action.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 571-272-3163. The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
11/21/2005

Seema S. Rao
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SUPERVISORY PATENT EXAMINER
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